

Angiosperms, tropical dry evergreen forests of southern Coromandel coast, India

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ABSTRACT: We provide a check list of angiosperm plant species with their bioresource potential as medicinal plants enumerated from a total of seventy-five tropical dry evergreen forest sites along the Coromandel coast of peninsular India. These are poorly known sites even within Indian sub-continent and form an under-studied forest type. Tropical dry evergreen forests harbour 312 species belonging to 251 genera and 80 families. The families with the greatest numbers of species were Euphorbiaceae (20 species), Apocynaceae (18 species), Rubiaceae (15), Fabaceae (12), Mimosaceae (11) and Capparaceae and Asteraceae (10 each). Physiognomically evergreen species dominated the forest. Plant specimens are identified and confirmed using regional floras. These forests are conserved by the local people on religious ground as sacred groves, although they are also subjected to various levels of anthropogenic impacts.

INTRODUCTION

The terrestrial forest type on the Coromandel coast of peninsular India is referred as tropical dry evergreen forest (TDEF), (Champion and Seth 1968). They occur as patches and are short-statured, largely three-layered, tree dominated evergreen forests with a sparse and patchy ground flora (Venkateswaran and Parthasarathy 2005). They received greater attention only in recent years, particularly in India, because their conservation is threatened by human disturbance. The TDEFs occur in drier areas that experience three to six dry months in a year. They harbour largely evergreen species with a few deciduous and brevi-deciduous species, and have considerable density of lianas (Reddy and Parthasarathy 2003). Compared to tropical wet forests, they receive less annual rainfall (< 1200 mm), buttresses are rare, cauliflory is uncommon, herbaceous vascular epiphytes are very rare and large vertebrate seed dispersers are absent, owing to the patchy (relatively small – 0.5-10 ha) area of these forests on the Coromandel coast. Most of these forests are ‘sacred groves’, composed of native plant species and preserved due to religious belief of the local people (Mani and Parthasarathy 2005; Venkateswaran and Parthasarathy 2005; Parthasarathy *et al.* 2008). TDEFs have been distinguished by various authors (Sebastine and Ellis 1967; Champion and Seth 1968; Rao and Meher-Homji 1993) and they represent a peculiar type that are confined to the southeastern coast of India, Northeast Sri Lanka (Blasco and Legris 1973), northwest Thailand (Bunyavejehewin 1999) and Jamaica (Kelly *et al.* 1988). These are poorly known forest types even within the Indian sub-continent and are species-poor when compared to tropical wet forests (Parthasarathy and Karthikeyan 1997). We provide an updated check list of angiosperm plant species enumerated from a total of 75 TDEF sites of Coromandel coast forest.

MATERIALS AND METHODS

Study site

Inventory of plant diversity was carried out in a total of 75 TDEF sites distributed along the southern Coromandel coast, but concentrated in Villupuram (11°93'33" N 79°28'60" E), Cuddalore (11°46'12" N 79°46'11" E) and Pudukkottai (17°48'41" N 80°19'55" E) districts of Tamil Nadu, south India (Figure 1). These sites were selected to represent various levels of site disturbance (relatively undisturbed, moderately disturbed to much disturbed), soil type (alluvial, coastal sandy and red ferrallitic), total areal extent of forests (small to large – 0.5 to 10 ha), temple structure (small, primitive to large, well constructed) and extent of biodiversity, based on preliminary site survey, ranging from – low to high diversity (10 to 72 species) etc. Geologically the area is generally considered to be of upper Miocene or Pliocene age. The Cuddalore sand stones are overlain by deltaic alluvium and coastal sand. They consist of soft red, yellow and mottled ferruginous sand stones, sandy clay, clay and pebble beds. They generally lie unconfirmably over the Cretaceous rocks, upper Gondwanas or gneisses.

The mean annual temperature and rainfall vary along the Coromandel coast of Villupuram, Cuddalore and Pudukkottai districts. The mean annual temperature is 32.78 °C in the former two areas and 28.5 °C in Pudukkottai and the mean annual rainfall is 1,225 mm and 900 mm respectively. The climate is tropical dissymmetric with the bulk of rainfall received during the north-east monsoon (October-December).

Data collection

A total of 100 field trips were made for the enumeration of angiosperm flora in 75 TDEF sites by qualitative floristic survey. Also the medicinal values and the traditional knowledge on the enumerated species were documented,

but they are not presented in this article. Species were identified using regional floras (Gamble and Fischer 1921-1935; Matthew 1991; Nair and Henry 1983; Henry *et al.* 1987; Henry *et al.* 1989), confirmed using the collections lodged in Department of Ecology and Environmental Sciences (DEES), Pondicherry University. The specimens are deposited in DEES.

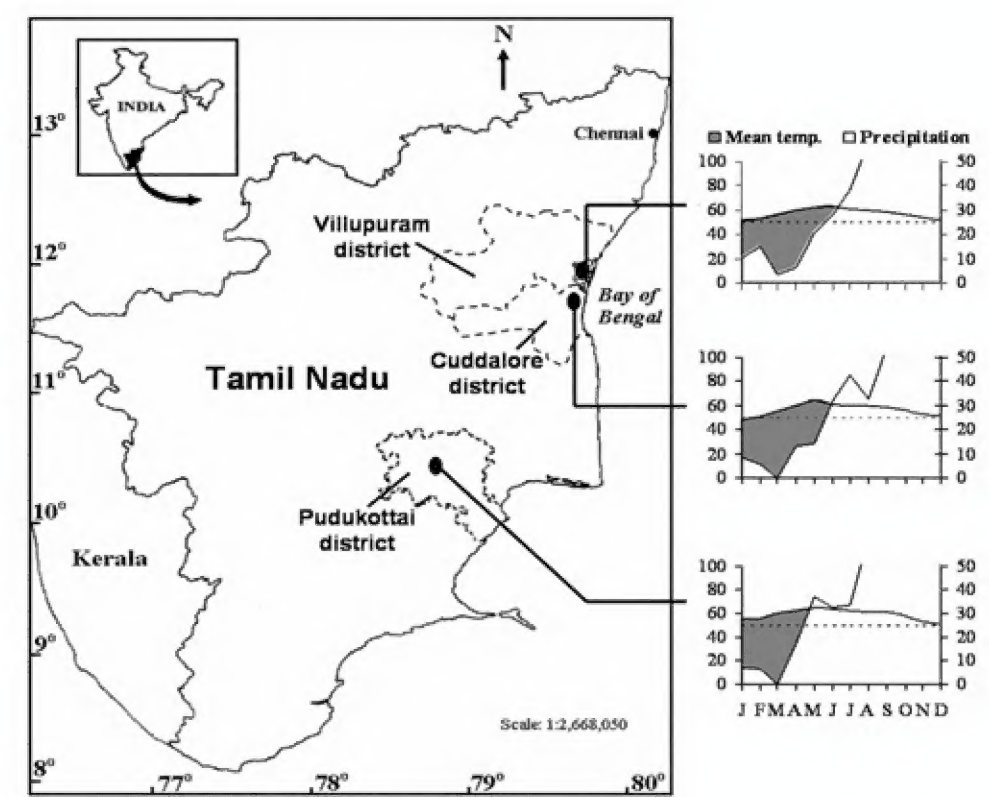


FIGURE 1. Map showing the districts viz. Villupuram, Cuddalore and Pudukottai wherein 75 TDEFs are located on the Coromandel coast of peninsular India, and climate diagram for three nearest towns, which depict the tropical dissymmetric climate regime.

RESULTS AND DISCUSSION

A total of 312 angiosperm plant species (251 genera and 80 families) were recorded from 75 TDEF sites. Plant species are classed as ‘Core TDEF species’ (149) which occur mostly in TDEFs and ‘Others’ (163) *i.e.* those that occur in many other forest types also. The most speciose

families include Euphorbiaceae with 20 species followed by Apocynaceae (18 species), Rubiaceae (15 species), Fabaceae (12), Mimosaceae (12) and Capparaceae and Asteraceae 10 species each. The species richness of each site varied from a high of 69 species in site Puthupet (PP) and a low of 10 species in site Thakkiripatti (TK). Physiognomically most of the TDEF species are evergreen (50 %), followed by deciduous (29 %) and brevi-deciduous (21 %) (Parthasarathy *et al.* 2008). Important plant species are featured in Figures 3–7 and many these species form important resource rewarding plants. Plant binomial, family and voucher number are listed in Table 1.

The earlier publications on the plant diversity of Coromandel coast TDEFs confined only to woody species and listed out 86 tree and 44 liana species (Parthasarathy and Sethi 1997; Parthasarathy and Karthikeyan 1997; Venkateswaran and Parthasarathy 2003; Reddy and Parthasarathy 2003; Mani and Parthasarathy 2005; Reddy and Parthasarathy 2007; Anbarashan and Parthasarathy 2008), whereas in this survey, various life-forms such as trees, lianas, shrubs, herbaceous climbers and herbs were included. The dominant tree species in the studied sites include *Memecylon umbellatum*, *Pterospermum canescens* and *Tricalysia sphaerocarpa*; the dominant lianas include *Combretum albidum*, *Strychnos minor* and *Reissantia indica*; *Glycosmis mauritiana*, *Tarenna asiatica* and *Clausena dentata* are common in shrubs; and *Sida cordifolia*, *Spermacoce hispida* and *S. ocymoides* are the common herbs.

Among the 312 plant species inventoried species such as *Sansevieria roxburghiana*, *Pterospermum canescens* and *Phoenix pusilla* are endemic to Coromandel coast and rare species in the 75 study sites include *Aglaia elaeagnoidea*, *Alangium salvifolium*, *Miliusa montana*, *Polyalthia korintii*, *Semecarpus anacardium* and *Pterospermum xylocarpum*.

TABLE 1. Angiosperm plant species enumerated from 75 TDEF sites of peninsular India with their binomial, life-form, family and voucher number.

SL. NO.	BINOMIAL	LIFE-FORM	FAMILY	VOUCHER NO.
1.	<i>Abrus precatorius</i> L.	L	Fabaceae	4231
2.	<i>Abutilon indicum</i> (L.) Sweet	H	Malvaceae	4801
3.	<i>Acacia caesia</i> (L) Willd.	L	Mimosaceae	4829
4.	<i>Acacia leucophloea</i> Willd.	T	Mimosaceae	4870
5.	<i>Acacia planifrons</i> Wight & Arn.	T	Mimosaceae	4871
6.	<i>Acalypha indica</i> L.	H	Euphorbiaceae	4930
7.	<i>Acanthospermum hispidum</i> DC.	H	Asteraceae	4830
8.	<i>Achyranthes aspera</i> L.	H	Amaranthaceae	4256
9.	<i>Adenia wightiana</i> (Wall.ex Wight & Arn.) Eng.	L	Passifloraceae	4802
10.	<i>Adhatoda zeylanica</i> Medik.	S	Acanthaceae	4872
11.	<i>Aegle marmelos</i> (L.) Corrêa	T	Rutaceae	4831
12.	<i>Aerva javanica</i> (Burm. f.) Juss.	H	Amaranthaceae	4803
13.	<i>Aerva lanata</i> (L.) Juss. ex Schult.	H	Amaranthaceae	4397
14.	<i>Aganosma cymosa</i> (Roxb.) G. Don	L	Apocynaceae	4383
15.	<i>Ageratum conyzoides</i> L.	H	Asteraceae	4832
16.	<i>Aglaia elaeagnoidea</i> (A. Juss.) Benth.	T	Meliaceae	4804
17.	<i>Alangium salvifolium</i> (L. f.) Wangerin	T	Alangiaceae	4873
18.	<i>Albizia amara</i> (Roxb.) Boivin	T	Mimosaceae	4833
19.	<i>Albizia lebbek</i> (L.) Benth.	T	Mimosaceae	4204
20.	<i>Albizia odoratissima</i> (L.f.) Benth.	T	Mimosaceae	4874
21.	<i>Allamanda cathartica</i> L.	S	Apocynaceae	4834
22.	<i>Allophylus serratus</i> (Hiern) Kurz	S	Sapindaceae	4238
23.	<i>Aloe vera</i> (L.) Burm. f.	H	Liliaceae	4875

TABLE 1. CONTINUED.

SL. NO.	BINOMIAL	LIFE-FORM	FAMILY	VOUCHER NO.
24.	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC.	H	Amaranthaceae	4835
25.	<i>Amaranthus spinosus</i> L.	H	Amaranthaceae	4876
26.	<i>Amaranthus viridis</i> L.	H	Amaranthaceae	4931
27.	<i>Ammannia baccifera</i> L.	H	Lythraceae	4805
28.	<i>Amorphophallus sylvaticus</i> (Roxb.) Kunth	H	Araceae	4836
29.	<i>Ampelocissus tomentosa</i> (Roth in Schult.) Planch.	L	Vitaceae	4877
30.	<i>Anacardium occidentale</i> L.	T	Anacardiaceae	4932
31.	<i>Andrographis alata</i> Nees	H	Acanthaceae	4899
32.	<i>Andrographis paniculata</i> (Burm. f.) Nees	H	Acanthaceae	4837
33.	<i>Anisomeles malabarica</i> R. Br.	H	Lamiaceae	4399
34.	<i>Aristolochia bracteolata</i> Lam.	H	Aristolochiaceae	4878
35.	<i>Asparagus racemosus</i> Willd.	L	Liliaceae	4228
36.	<i>Atalantia monophylla</i> DC.	T	Rutaceae	4203
37.	<i>Azadirachta indica</i> A. Juss.	T	Meliaceae	4205
38.	<i>Azima tetracantha</i> Lam.	S	Salvadoraceae	4236
39.	<i>Bambusa bambos</i> (L.) Voss	T	Poaceae	4806
40.	<i>Barleria prionitis</i> L.	S	Acanthaceae	4838
41.	<i>Barringtonia acutangula</i> (L.) Gaertn.	T	Barringtoniaceae	4244
42.	<i>Bauhinia racemosa</i> Lam.	T	Caesalpiniaceae	4879
43.	<i>Benkara malabarica</i> (Lam.) Tirveng.	T	Rubiaceae	4207
44.	<i>Blepharis maderaspatensis</i> (L.) B. Heyne ex Roth	H	Acanthaceae	4257
45.	<i>Boerhavia diffusa</i> L.	H	Nyctaginaceae	4348
46.	<i>Borassus flabellifer</i> L.	T	Arecaceae	4235
47.	<i>Breynia vitis-idaea</i> (Burm. f.) C.E.C. Fisch.	T	Euphorbiaceae	4335
48.	<i>Butea monosperma</i> (Lam.) Taub.	T	Fabaceae	4880
49.	<i>Cadaba fruticosa</i> (L.) Druce	S	Capparaceae	4839
50.	<i>Cadaba trifoliata</i> Wight & Arn.	S	Capparaceae	4933
51.	<i>Caesalpinia bonduc</i> (L.) Roxb.	T	Caesalpiniaceae	4807
52.	<i>Caesalpinia pulcherrima</i> (L.) Sw.	T	Caesalpiniaceae	4881
53.	<i>Calamus rotang</i> L.	L	Arecaceae	4934
54.	<i>Calophyllum inophyllum</i> L.	T	Clusiaceae	4305
55.	<i>Calotropis gigantea</i> (L.) W.T. Aiton	S	Apocynaceae	4882
56.	<i>Calycopteris floribunda</i> (Roxb.) Lam. ex Poir.	L	Combretaceae	4935
57.	<i>Canavalia virosa</i> (Roxb.) Wight & Arn.	L	Fabaceae	4840
58.	<i>Cansjera rheedei</i> J.F. Gmel.	L	Opiliaceae	4226
59.	<i>Canthium coromandelicum</i> Alston	T	Rubiaceae	4308
60.	<i>Canthium dicoccum</i> (Gaertn.) Merr.	T	Rubiaceae	4265
61.	<i>Capparis brevispina</i> DC.	L	Capparaceae	4223
62.	<i>Capparis rotundifolia</i> Rottler	L	Capparaceae	4227
63.	<i>Capparis sepiaria</i> L.	L	Capparaceae	4883
64.	<i>Capparis zeylanica</i> L.	L	Capparaceae	4236
65.	<i>Caralluma umbellata</i> Haw.	H	Apocynaceae	4841
66.	<i>Cardiospermum halicacabum</i> L.	L	Sapindaceae	4808
67.	<i>Carica papaya</i> L.	T	Caricaceae	4884
68.	<i>Carissa spinarum</i> L.	L	Apocynaceae	4221
69.	<i>Carmona retusa</i> (Vahl) Masam.	S	Boraginaceae	4212
70.	<i>Cascabela thevetia</i> (L.) Lippold	T	Apocynaceae	4885
71.	<i>Casearia elliptica</i> Klotzsch	T	Flacourtiaceae	4356
72.	<i>Cassia auriculata</i> L.	S	Caesalpiniaceae	4886
73.	<i>Cassia fistula</i> L.	T	Caesalpiniaceae	4887
74.	<i>Cassia occidentalis</i> L.	H	Caesalpiniaceae	4254
75.	<i>Cassia roxburghii</i> DC.	T	Caesalpiniaceae	4936
76.	<i>Cassia siamea</i> Lam.	T	Caesalpiniaceae	4888
77.	<i>Cassia tora</i> L.	H	Caesalpiniaceae	4937
78.	<i>Cassine glauca</i> Kuntze	T	Celastraceae	4998
79.	<i>Cassytha filiformis</i> L.	P	Lauraceae	4997
80.	<i>Catharanthus roseus</i> (L.) G. Don	H	Apocynaceae	4809
81.	<i>Catunaregam spinosa</i> (Thunb.) Tirveng.	T	Rubiaceae	4842

TABLE 1. CONTINUED.

SL. NO.	BINOMIAL	LIFE-FORM	FAMILY	VOUCHER NO.
82.	<i>Cayratia pedata</i> (Lour.) Juss.	L	Vitaceae	4889
83.	<i>Ceiba pentandra</i> (L.) Gaertn.	T	Bombacaceae	4938
84.	<i>Centella asiatica</i> (L.) Urb.	H	Apiaceae	4996
85.	<i>Cereus pterogonus</i> Lem.	S	Cactaceae	4346
86.	<i>Chionanthus zeylanicus</i> L.	T	Oleaceae	4890
87.	<i>Chloris inflata</i> Link	H	Poaceae	4843
88.	<i>Chloroxylon swietenia</i> DC.	T	Flindersiaceae	4891
89.	<i>Cissus quadrangularis</i> L.	L	Vitaceae	4225
90.	<i>Cissus vitiginea</i> L.	L	Vitaceae	4230
91.	<i>Citrus medica</i> L.	T	Rutaceae	4892
92.	<i>Clausena dentata</i> (Willd.) Roem.	S	Rutaceae	4939
93.	<i>Cleistanthus collinus</i> (Roxb.) Benth.	T	Phyllanthaceae	5000
94.	<i>Cleome gynandra</i> L.	H	Capparaceae	4995
95.	<i>Cleome viscosa</i> L.	H	Capparaceae	4390
96.	<i>Clerodendrum inerme</i> (L.) Gaertn.	S	Verbenaceae	4893
97.	<i>Coccinia grandis</i> (L.) Voigt	L	Cucurbitaceae	4229
98.	<i>Cocos nucifera</i> L.	T	Arecaceae	4350
99.	<i>Coldenia procumbens</i> L.	H	Boraginaceae	4894
100.	<i>Combretum ovalifolium</i> Roxb.	L	Combretaceae	4217
101.	<i>Commelina benghalensis</i> L.	H	Commelinaceae	4844
102.	<i>Commelina paleata</i> Hassk.	H	Commelinaceae	4895
103.	<i>Commiphora caudata</i> Engl.	T	Burseraceae	4810
104.	<i>Corallocarpus epigaeus</i> (Rottler) Benth. & Hook. f. ex C.B. Clarke	HC	Cucurbitaceae	4940
105.	<i>Corchorus capsularis</i> L.	H	Tiliaceae	4398
106.	<i>Cordia monoica</i> Roxb.	T	Boraginaceae	4365
107.	<i>Cordia obliqua</i> Willd.	T	Boraginaceae	4896
108.	<i>Cordia sebestena</i> L.	T	Boraginaceae	4941
109.	<i>Crateva magna</i> (Lour.) DC.	T	Capparaceae	4994
110.	<i>Croton bonplandianus</i> Baill.	H	Euphorbiaceae	4340
111.	<i>Ctenolepis garcinii</i> (Burm. f.) C.B. Clarke	HC	Cucurbitaceae	4845
112.	<i>Cynodon dactylon</i> (L.) Pers.	H	Poaceae	4897
113.	<i>Cyperus rotundus</i> L.	H	Cyperaceae	4942
114.	<i>Daemia extensa</i> (Jacq.) R. Br. ex Schult.	HC	Apocynaceae	4993
115.	<i>Dalbergia coromandeliana</i> Prain	T	Fabaceae	4846
116.	<i>Dalbergia paniculata</i> Roxb.	T	Fabaceae	4898
117.	<i>Delonix elata</i> (L.) Gamble	T	Caesalpiniaceae	4943
118.	<i>Delonix regia</i> (Bojer ex Hook.) Raf.	T	Caesalpiniaceae	4992
119.	<i>Dendrophthoe falcata</i> (L. f.)	P	Loranthaceae	4334
120.	<i>Derris ovalifolia</i> (Wight & Arn.) Benth.	L	Fabaceae	4278
121.	<i>Derris scandens</i> (Roxb.) Benth.	L	Fabaceae	4239
122.	<i>Dichrostachys cinerea</i> (L.) Wight & Arn.	T	Mimosaceae	4899
123.	<i>Dimorphocalyx glabellus</i> Thwaites	T	Euphorbiaceae	4811
124.	<i>Dioscorea oppositifolia</i> L.	HC	Dioscoreaceae	4847
125.	<i>Dioscorea pentaphylla</i> L.	HC	Dioscoreaceae	4245
126.	<i>Diospyros ebenum</i> J. König	T	Ebenaceae	4313
127.	<i>Diospyros ferrea</i> (Willd.) Bakh.	T	Ebenaceae	4312
128.	<i>Diospyros montana</i> Roxb.	T	Ebenaceae	4900
129.	<i>Dipteracanthus prostratus</i> (Poir.) Nees	H	Acanthaceae	4944
130.	<i>Dodonaea angustifolia</i> L. f.	S	Sapindaceae	4336
131.	<i>Drypetes sepiaria</i> (Wight & Arn.) Pax & K. Hoffm.	T	Euphorbiaceae	4215
132.	<i>Ecbolium viride</i> Alston	H	Acanthaceae	4371
133.	<i>Eclipta prostrata</i> (L.) L.	H	Asteraceae	4945
134.	<i>Ehretia aspera</i> Willd.	T	Boraginaceae	4848
135.	<i>Elephantopus scaber</i> L.	H	Asteraceae	4991
136.	<i>Eucalyptus globulus</i> Labill.	T	Myrtaceae	4849
137.	<i>Eugenia bracteata</i> Rich.	T	Myrtaceae	4901
138.	<i>Euphorbia antiquorum</i> L.	T	Euphorbiaceae	4946
139.	<i>Euphorbia heterophylla</i> L.	H	Euphorbiaceae	4252

TABLE 1. CONTINUED.

SL. NO.	BINOMIAL	LIFE-FORM	FAMILY	VOUCHER NO.
140.	<i>Euphorbia hirta</i> L.	H	Euphorbiaceae	4990
141.	<i>Evolvulus alsinoides</i> (L.) L.	H	Convolvulaceae	4902
142.	<i>Ficus amplissima</i> Sm	T	Moraceae	4947
143.	<i>Ficus benghalensis</i> L.	T	Moraceae	4210
144.	<i>Ficus hispida</i> L. f.	T	Moraceae	4237
145.	<i>Ficus microcarpa</i> L. f.	T	Moraceae	4850
146.	<i>Ficus religiosa</i> L.	T	Moraceae	4812
147.	<i>Ficus tinctoria</i> subsp. <i>parasitica</i> (Willd.) Corner	T	Moraceae	4903
148.	<i>Fimbristylis miliacea</i> (L.) Vahl	H	Cyperaceae	4338
149.	<i>Flacourtia indica</i> (Burm. f.) Merr.	T	Flacourtiaceae	4268
150.	<i>Garcinia spicata</i> Hook.	T	Clusiaceae	4216
151.	<i>Gardenia resinifera</i> Roth	T	Rubiaceae	4904
152.	<i>Gloriosa superba</i> L.	HC	Liliaceae	4347
153.	<i>Glycosmis mauritiana</i> Tanaka	S	Rutaceae	4211
154.	<i>Gmelina asiatica</i> L.	T	Verbenaceae	4209
155.	<i>Gomphrena celosioides</i> Mart.	H	Amaranthaceae	4813
156.	<i>Grewia rhamnifolia</i> Roth	L	Tiliaceae	4220
157.	<i>Gymnema sylvestre</i> (Retz.) R. Br. ex Schultes	L	Apocynaceae	4851
158.	<i>Gyrocarpus americanus</i> Jacq.	T	Hernandiaceae	4905
159.	<i>Hedyotis puberula</i> (G. Don) Arn.	H	Rubiaceae	4906
160.	<i>Hemidesmus indicus</i> (L.) R. Br. ex Schult.	HC	Apocynaceae	4261
161.	<i>Hibiscus micranthus</i> L. f.	H	Malvaceae	4907
162.	<i>Holoptelea integrifolia</i> Planch.	T	Ulmaceae	4909
163.	<i>Hugonia mystax</i> L.	L	Linaceae	4948
164.	<i>Hybanthus enneaspermus</i> (L.) F. Muell.	H	Violaceae	4341
165.	<i>Hyptis suaveolens</i> (L.) Poit.	H	Lamiaceae	4908
166.	<i>Ichnocarpus frutescens</i> (L.) W.T. Aiton	L	Apocynaceae	4322
167.	<i>Indigofera tinctoria</i> L.	H	Fabaceae	4950
168.	<i>Ipomoea carnea</i> Jacq.	S	Convolvulaceae	4852
169.	<i>Ipomoea staphylina</i> Roem. & Schult.	L	Convolvulaceae	4910
170.	<i>Ixora pavetta</i> Andrews	S	Rubiaceae	4208
171.	<i>Jasminum angustifolium</i> Willd.	L	Oleaceae	4218
172.	<i>Jasminum sessiliflorum</i> Vahl	L	Oleaceae	4951
173.	<i>Jatropha gossypifolia</i> L.	S	Euphorbiaceae	4814
174.	<i>Justicia procumbens</i> L.	H	Acanthaceae	4989
175.	<i>Justicia tranquebariensis</i> L. f.	H	Acanthaceae	4242
176.	<i>Kalanchoe pinnata</i> (Lam.) Pers.	H	Crassulaceae	4911
177.	<i>Kigelia africana</i> (Lam.) Benth.	T	Bignoniaceae	4952
178.	<i>Kyllinga bulbosa</i> P. Beauv.	H	Cyperaceae	4394
179.	<i>Kyllinga monocephala</i> Thunb.	H	Cyperaceae	4391
180.	<i>Lannea coromandelica</i> (Houtt.) Merr.	T	Anacardiaceae	4206
181.	<i>Lantana camara</i> L.	L	Verbenaceae	4853
182.	<i>Lawsonia inermis</i> L.	T	Lythraceae	4912
183.	<i>Lepisanthes tetraphylla</i> (Vahl.) Radlk.	T	Sapindaceae	4214
184.	<i>Leptadenia reticulata</i> (Retz.) Wight & Arn.	L	Apocynaceae	4953
185.	<i>Leucaena latisiliqua</i> (L.) Gillis & Stearn	T	Mimosaceae	4988
186.	<i>Leucas aspera</i> (Willd.) Link	H	Lamiaceae	4395
187.	<i>Limonia acidissima</i> L.	T	Rutaceae	4854
188.	<i>Ludwigia perennis</i> L.	H	Onagraceae	4913
189.	<i>Madhuca longifolia</i> (J. König ex L.) J.F. Macbr.	T	Sapotaceae	4815
190.	<i>Maerua oblongifolia</i> (Forssk.) A. Rich.	L	Capparaceae	4954
191.	<i>Mallotus philippensis</i> (Lam.) Mull. Arg.	T	Euphorbiaceae	4314
192.	<i>Mallotus rhamnifolius</i> (Willd.) Mull. Arg.	T	Euphorbiaceae	4987
193.	<i>Manilkara hexandra</i> (Roxb.) Dubard	T	Sapotaceae	4855
194.	<i>Manilkara zapota</i> (L.) P. Royen	T	Sapotaceae	4955
195.	<i>Martynia annua</i> L.	H	Pedaliaceae	4986
196.	<i>Maytenus emarginata</i> (Willd.) Ding Hou	S	Celastraceae	4272
197.	<i>Memecylon umbellatum</i> Burm. f.	T	Melastomataceae	4202

TABLE 1. CONTINUED.

SL. NO.	BINOMIAL	LIFE-FORM	FAMILY	VOUCHER NO.
198.	<i>Merremia emarginata</i> (Burm. f.) Hallier f.	H	Convolvulaceae	4260
199.	<i>Micrococca mercurialis</i> (L.) Benth.	H	Euphorbiaceae	4914
200.	<i>Milusa montana</i> Leshchen. ex A. DC.	S	Annonaceae	4985
201.	<i>Millingtonia hortensis</i> L. f.	T	Bignoniaceae	4856
202.	<i>Mimosa intsia</i> L.	L	Mimosaceae	4816
203.	<i>Mimosa pudica</i> L.	H	Mimosaceae	4956
204.	<i>Mimusops elengi</i> L.	T	Sapotaceae	4263
205.	<i>Mollugo nudicaulis</i> Lam.	H	Molluginaceae	4984
206.	<i>Mollugo pentaphylla</i> L.	H	Molluginaceae	4342
207.	<i>Morinda coreia</i> Buch. -Ham.	T	Rubiaceae	4302
208.	<i>Moringa oleifera</i> Lam.	T	Moringaceae	4915
209.	<i>Mukia maderaspatana</i> (L.) M. Roem.	L	Cucurbitaceae	4957
210.	<i>Ochna squarrosa</i> L.	T	Ochnaceae	4269
211.	<i>Ocimum basilicum</i> L.	H	Lamiaceae	4857
212.	<i>Ocimum tenuiflorum</i> Burm. f.	H	Lamiaceae	4958
213.	<i>Olax scandens</i> Roxb.	L	Olacaceae	4916
214.	<i>Oldenlandia herbaceae</i> (L.) Roxb.	H	Rubiaceae	4249
215.	<i>Opuntia stricta</i> var. <i>dillenii</i> (Ker Gawl.) L.D. Benson	H	Cactaceae	4243
216.	<i>Pachygone ovata</i> (Poir.) Diels	L	Menispermaceae	4224
217.	<i>Pamburus missionis</i> (Wight) Swingle	T	Rutaceae	4234
218.	<i>Parthenium hysterophorus</i> L.	H	Asteraceae	4817
219.	<i>Paspalidium flavidum</i> (Retz.) A. Camus	H	Poaceae	4858
220.	<i>Pavetta indica</i> L.	T	Rubiaceae	4259
221.	<i>Pavonia zeylanica</i> Cav.	H	Malvaceae	4917
222.	<i>Pedaliium murex</i> L.	H	Pedaliaceae	4959
223.	<i>Perotis indica</i> (L.) Kuntze	H	Poaceae	4983
224.	<i>Phoenix pusilla</i> Gaertn.	S	Arecaceae	4332
225.	<i>Phoenix sylvestris</i> (L.) Roxb.	T	Arecaceae	4918
226.	<i>Phyla nodiflora</i> (L.) Greene	H	Verbenaceae	4960
227.	<i>Phyllanthus amarus</i> Schumach. & Thonn.	H	Euphorbiaceae	4255
228.	<i>Phyllanthus emblica</i> L.	T	Euphorbiaceae	4982
229.	<i>Phyllanthus polyphyllus</i> Willd.	T	Euphorbiaceae	4859
230.	<i>Plecosperrum spinosum</i> Trécul	L	Moraceae	4961
231.	<i>Pleiospermium alatum</i> Swingle	T	Rutaceae	4919
232.	<i>Plumbago zeylanica</i> L.	H	Plumbaginaceae	4368
233.	<i>Plumeria rubra</i> L.	T	Apocynaceae	4981
234.	<i>Polyalthia korintii</i> Hook. f. & Thoms.	T	Annonaceae	4818
235.	<i>Polyalthia longifolia</i> (Sonn.) Thwaites	T	Annonaceae	4360
236.	<i>Pongamia pinnata</i> (L.) Merr.	T	Fabaceae	4366
237.	<i>Premna corymbosa</i> (Burm. f.) Rottler & Willd.	L	Verbenaceae	4222
238.	<i>Premna serratifolia</i> L.	T	Verbenaceae	4860
239.	<i>Prosopis juliflora</i> (Sw.) DC.	T	Mimosaceae	4920
240.	<i>Pseudarthria viscida</i> (L.) Wight & Arn.	H	Fabaceae	4962
241.	<i>Psidium guajava</i> L.	T	Myrtaceae	4307
242.	<i>Psilanthus wightianus</i> (Wall. ex Wight & Arn.) J.-F.Leroy	S	Rubiaceae	4264
243.	<i>Psilotrichum elliottii</i> Baker	H	Amaranthaceae	4980
244.	<i>Pterolobium hexapetalum</i> Santapau & Wagh	L	Caesalpiniaceae	4861
245.	<i>Pterospermum canescens</i> Roxb.	T	Sterculiaceae	4201
246.	<i>Pterospermum xylocarpum</i> (Gaertn.) Sant. & Wagh.	T	Sterculiaceae	4979
247.	<i>Pupalia lappacea</i> var. <i>orbiculata</i> Heyne ex Wall.	H	Amaranthaceae	4963
248.	<i>Pyrenacantha volubilis</i> Hook.	L	Icacinaceae	4819
249.	<i>Rauvolfia tetraphylla</i> L.	S	Apocynaceae	4921
250.	<i>Reissantia indica</i> (Willd.) N. Halle	L	Celastraceae	4219
251.	<i>Rhynchosia cana</i> (Willd.) DC.	HC	Fabaceae	4862
252.	<i>Ricinus communis</i> L.	S	Euphorbiaceae	4978
253.	<i>Rivea hypocrateriformis</i> Choisy	L	Convolvulaceae	4328
254.	<i>Salvadora persica</i> L.	T	Salvadoraceae	4964
255.	<i>Samanea saman</i> (Jacq.) Merr.	T	Mimosaceae	4977

TABLE 1. CONTINUED.

SL. NO.	BINOMIAL	LIFE-FORM	FAMILY	VOUCHER NO.
256.	<i>Sansevieria roxburghiana</i> Schult. f.	H	Agavaceae	4922
257.	<i>Sapindus emarginatus</i> Vahl	T	Sapindaceae	4976
258.	<i>Sapium insigne</i> (Royle) Benth. & Hook. f.	S	Euphorbiaceae	4965
259.	<i>Sarcostemma acidum</i> (Roxb.) Voigt	L	Apocynaceae	4315
260.	<i>Scilla hyacinthina</i> (Roth.) J. F. Macbr.	H	Liliaceae	4863
261.	<i>Scoparia dulcis</i> L.	H	Scrophulariaceae	4966
262.	<i>Scutia myrtina</i> (Burm. f.) Kurz	L	Rhamnaceae	4975
263.	<i>Secamone emetica</i> (Retz.) R. Br. ex Schult.	L	Apocynaceae	4820
264.	<i>Securenega leucopyrus</i> (Willd.) Muell.-Arg.	T	Euphorbiaceae	4370
265.	<i>Semecarpus anacardium</i> L. f.	T	Anacardiaceae	4974
266.	<i>Sida acuta</i> Burm. f.	H	Malvaceae	4247
267.	<i>Sida cordifolia</i> L.	H	Malvaceae	4250
268.	<i>Sida rhombifolia</i> L.	H	Malvaceae	4923
269.	<i>Sida schimperiana</i> Hochst. ex A. Rich	H	Malvaceae	4967
270.	<i>Solanum nigrum</i> L.	H	Solanaceae	4864
271.	<i>Solanum trilobatum</i> L.	L	Solanaceae	4400
272.	<i>Solena amplexicaulis</i> (Lam.) Gandhi	HC	Cucurbitaceae	4968
273.	<i>Spermacoce hispida</i> L.	H	Rubiaceae	4248
274.	<i>Spermacoce ocymoides</i> Burm.f.	H	Rubiaceae	4337
275.	<i>Sporobolus coromandelianus</i> (Retz.) Kunth	H	Poaceae	4924
276.	<i>Streblus asper</i> Lour.	T	Moraceae	4240
277.	<i>Strychnos minor</i> Dennst.	L	Loganiaceae	4969
278.	<i>Strychnos nux-vomica</i> L.	T	Loganiaceae	4970
279.	<i>Strychnos potatorum</i> L. f.	T	Loganiaceae	4262
280.	<i>Suregada angustifolia</i> Baill.	T	Euphorbiaceae	4821
281.	<i>Synedrella nodiflora</i> (L.) Gaertn.	H	Asteraceae	4865
282.	<i>Syzygium cumini</i> (L.) Skeels	T	Myrtaceae	4213
283.	<i>Tamarindus indica</i> L.	T	Caesalpiniaceae	4925
284.	<i>Tarennia asiatica</i> Kuntze ex K. Schum.	S	Rubiaceae	4258
285.	<i>Tephrosia purpurea</i> (L.) Pers.	H	Fabaceae	4343
286.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	T	Combretaceae	4866
287.	<i>Terminalia catappa</i> L.	T	Combretaceae	4269
288.	<i>Theriophonum minutum</i> (Willd.) Baill.	H	Araceae	4246
289.	<i>Thespesia populnea</i> (L.) Sol. ex Corrêa	T	Malvaceae	4971
290.	<i>Tiliacora acuminata</i> Miers	L	Menispermaceae	4233
291.	<i>Tinospora cordifolia</i> (Willd.) Miers	L	Menispermaceae	4232
292.	<i>Toddalia asiatica</i> (L.) Lam.	L	Rutaceae	4926
293.	<i>Tragia involucrata</i> L.	HC	Euphorbiaceae	4241
294.	<i>Tribulus terrestris</i> L.	H	Zygophyllaceae	4251
295.	<i>Tricalysia sphaerocarpa</i> (Dalzell ex Hook. f.) Gamble	T	Rubiaceae	4822
296.	<i>Tridax procumbens</i> L.	H	Asteraceae	4972
297.	<i>Triumfetta rhomboidea</i> Jacq.	H	Tiliaceae	4827
298.	<i>Tylophora indica</i> (Burm. f.) Merr.	L	Apocynaceae	4323
299.	<i>Urena lobata</i> L.	H	Malvaceae	4867
300.	<i>Ventilago maderaspatana</i> Gaertn.	L	Rhamnaceae	4927
301.	<i>Vernonia cinerea</i> (L.) Less.	H	Asteraceae	4823
302.	<i>Vicoa indica</i> (L.) DC.	H	Asteraceae	4973
303.	<i>Viscum orientale</i> Willd.	P	Viscaceae	4828
304.	<i>Vitex altissima</i> L. f.	T	Verbenaceae	4929
305.	<i>Vitex negundo</i> L.	T	Verbenaceae	4824
306.	<i>Walsura trifolia</i> (A. Juss.) Harms	T	Meliaceae	4928
307.	<i>Waltheria indica</i> L.	H	Sterculiaceae	4345
308.	<i>Withania somnifera</i> (L.) Dunal	H	Solanaceae	4869
309.	<i>Wrightia tinctoria</i> R. Br.	T	Apocyanaceae	4825
310.	<i>Xanthium indicum</i> Konig ex Roxb.	S	Asteraceae	4868
311.	<i>Ziziphus mauritiana</i> Lam.	T	Rhamnaceae	4379
312.	<i>Ziziphus oenopolia</i> (L.) Mill.	T	Rhamnaceae	4826

T- Tree; L- Liana; HC- Herbaceous climber; H- Herb; P- Parasite, S- Shrub



FIGURE 2. Angiosperms collected from tropical dry evergreen forests (TDEF) of Coromandel coast of peninsular India. A) *Acacia caesia* (Mimosaceae) (Photo by M. Udayakumar); B) *Aglaia elaeagnoidea* (Meliaceae) (Photo by M. Udayakumar); C) *Aloe vera* (Liliaceae) (Photo by M. Udayakumar); D) *Cadaba trifoliata* (Capparaceae) (Photo by M. Udayakumar); E) *Calophyllum inophyllum* (Clusiaceae) (Flowering), (Photo by M. Udayakumar).



FIGURE 3. Angiosperms collected from tropical dry evergreen forests (TDEF) of Coromandel coast of peninsular India. A) *Calophyllum inophyllum*, (Clusiaceae) (Fruiting), (Photo by M. Udayakumar); B) *Canthium dicoccum* (Rubiaceae) (Photo by M. Udayakumar); C) *Capparis brevispina* (Capparaceae) (Photo by M. Udayakumar); D) *Carissa spinarum* (Apocynaceae) (Photo by M. Udayakumar); E) *Carmona retusa* (Boraginaceae) (Photo by M. Udayakumar); F) *Casearia elliptica* (Flacourtiaceae) (Photo by M. Udayakumar).



FIGURE 4. Angiosperms collected from tropical dry evergreen forests (TDEF) of Coromandel coast of peninsular India. A) *Cayratia pedata* (Vitaceae) (Photo by M. Udayakumar); B) *Dodonaea angustifolia* (Sapindaceae) (Photo by M. Udayakumar); C) *Eugenia bracteata* (Myrtaceae) (Photo by M. Rajkumar); D) *Euphorbia antiquorum* (Euphorbiaceae) (Photo by M. Udayakumar); E) *Grewia rhamnifolia* (Tiliaceae) (Photo by M. Udayakumar).



FIGURE 5. Angiosperms collected from tropical dry evergreen forests (TDEF) of Coromandel coast of peninsular India. A) *Hugonia mystax* (Linaceae) (Photo by M. Rajkumar); B) *Mallotus rhamnifolius* (Euphorbiaceae) (Photo by M. Udayakumar); C) *Maytenus emarginata* (Celastraceae) (Photo by M. Udayakumar); D) *Memecylon umbellatum* (Melastomataceae) (Photo by M. Udayakumar); E) *Olax scandens* (Olacaceae) (Flowering) (Photo by M. Udayakumar); F) *Olax scandens* (Olacaceae) (Fruiting) (Photo by M. Udayakumar).



FIGURE 6. Angiosperms collected from tropical dry evergreen forests (TDEF) of Coromandel coast of peninsular India. A) *Phoenix pusilla* (Areaceae) (Photo by M. Udayakumar); B) *Polyalthia korintii* (Annonaceae) (Photo by M. Udayakumar); C) *Premna corymbosa* (Verbenaceae) (Photo by M. Udayakumar); D) *Pterospermum canescens* (Sterculiaceae) (Photo by M. Udayakumar); E) *Rauvolfia tetraphylla* (Apocynaceae) (Photo by M. Udayakumar); F) *Reissantia indica* (Celastraceae) (Photo by M. Udayakumar).



FIGURE 7. Angiosperms collected from tropical dry evergreen forests (TDEF) of Coromandel coast of peninsular India. A) *Semecarpus anacardium* (Anacardiaceae) (Photo by C. Muthumperumal); B) *Strychnos minor* (Loganiaceae) (Photo by M. Udayakumar); C) *Strychnos nux-vomica* (Loganiaceae) (Photo by M. Udayakumar); D) *Tarenna asiatica* (Rubiaceae) (Photo by M. Udayakumar); E) *Tiliacora acuminata* (Menispermaceae) (Photo by C. Muthumperumal); F) *Toddalia asiatica* (Rutaceae) (Photo by M. Udayakumar); G) *Tricalysia sphaerocarpa* (Rubiaceae) (Photo by M. Udayakumar).

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LITERATURE CITED

- Anbarashan, M. and N. Parthasarathy. 2008. Comparative tree community analysis of two old-growth tropical dry evergreen forests of peninsular India; p. 202-211 *In* P.C. Trivedi (ed.). *Biodiversity: Impact and assessment*. Jaipur: Pointer Publishers.
- Blasco, F. and P. Legris. 1973. Dry evergreen forests of Point Calimere and Marakanam. *Journal of Bombay Natural History Society* 70(2): 279-294.
- Bunyavechewin, S. 1999. Structure and dynamics in seasonal dry evergreen forest in northeastern Thailand. *Journal of Vegetation Science* 10(6): 787-792.
- Champion, H.G. and S.K. Seth. 1968. *Revised survey of the forest types of India*. New Delhi: Manager of Publications. 404 p.
- Gamble, J.S. and C.E.C. Fischer. 1921-35. *Flora of the Presidency of Madras*. 3 Vols. London: Adlard and Son Ltd.
- Henry, A.N., G.R. Kumari and V. Chitra. 1989. *Flora of Tamil Nadu, India. Series I: Analysis. Vol. 2*. Coimbatore: Botanical Survey of India. 258 p.
- Henry, A.N., V. Chitra and N.P. Balakrishnan. 1987. *Flora of Tamil Nadu, India. Series I: Analysis. Vol. 3*. Coimbatore: Botanical Survey of India. 171 p.
- Kelly, D.L., E.V.J. Tanner, V. Kapos, T.A. Dickinson, G.A. Goodfriend and P. Fairbairn. 1988. Jamaican limestone forests: floristics, structure and environment of three examples along a rainfall gradient. *Journal of Tropical Ecology* 4(2): 121-156.
- Mani, S. and N. Parthasarathy. 2005. Biodiversity assessment of trees in five inland tropical dry evergreen forests of peninsular India. *Systematics and Biodiversity* 3(1): 1-12.
- Matthew, K.M. 1991. *An excursion Flora of Central Tamil Nadu*. Thiruchirappalli: Rapinat Herbarium. 647 p.
- Nair, N.C and A.N. Henry. 1983. *Flora of Tamil Nadu, India. Series I: Analysis. Vol. 1*. Coimbatore: Botanical Survey of India. 184 p.
- Parthasarathy, N. and R. Karthikeyan. 1997. Plant biodiversity inventory and conservation of two tropical dry evergreen forests on the Coromandel coast, south India. *Biodiversity and Conservation* 6(8): 1063-1083.
- Parthasarathy, N. and P. Sethi. 1997. Tree and liana species diversity and population structure in a tropical dry evergreen forest in south India. *Tropical Ecology* 38(1): 19-30.
- Parthasarathy, N., M.A. Selwyn and M. Udayakumar. 2008. Tropical dry evergreen forests of peninsular India: Ecology and conservation significance. *Tropical Conservation Science*. 1(2): 89-110.
- Rao, T.A. and V.M. Meher-Homji. 1993. Dry coastal ecosystems of the Indian sub-continent and Islands; p. 151-164 *In* van der Marrel (ed.). *Ecosystems of the World. 2B. Dry coastal ecosystems: Africa, America, Asia and Oceania*. Amsterdam: Elsevier.
- Reddy, M.S. and N. Parthasarathy. 2003. Liana diversity and distribution in four tropical dry evergreen forests on the Coromandel coast of south India. *Biodiversity and Conservation* 12(8): 1609-1627.
- Reddy, M.S., and N. Parthasarathy. 2007. Liana diversity and distribution on host trees in four inland tropical dry evergreen forests of peninsular India. *Tropical Ecology* 47(1): 103-116.
- Sebastine, K.M. and J.L. Ellis. 1967. A contribution to the vascular flora of Vedharanyam and Talaignayar Reserve forests, Tanjore district, Madras state. *Bulletin of Botanical Survey of India* 9(1-4): 190-200.
- Venkateswaran, R. and N. Parthasarathy. 2003. Tropical dry evergreen forests on the Coromandel coast of India: Structure, composition and human disturbance. *Ecotropica* 9(1-2): 45-58.
- Venkateswaran, R. and N. Parthasarathy. 2005. Tree population changes in a tropical dry evergreen forest of south India over a decade (1992-2002). *Biodiversity and Conservation* 14(6): 1335-1344.

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